The structural basis of cephalosporin formation in a mononuclear ferrous enzyme

Valegård, Karin; Terwisscha van Scheltinga, Anke C.; Dubus, Alain; Ranghino, Graziella; Öster, Linda M.; Hajdu, Janos; Andersson, Inger

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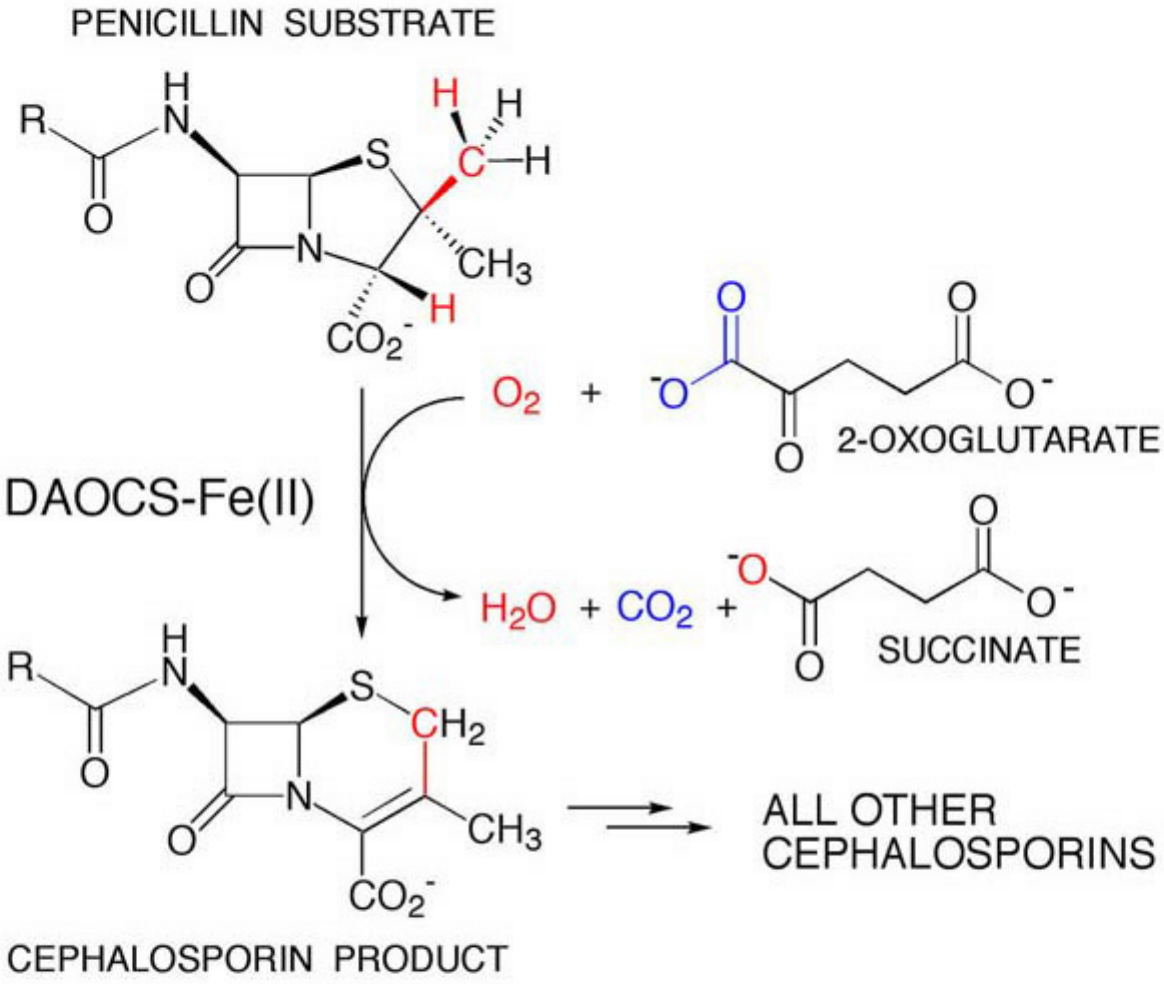
Supplementary Figure 1



The ring-expansion reaction catalysed by DAOCS from Streptomyces clavuligerus. DAOCS has broad substrate specificity and can catalyse ring expansion in penicillins with various R-groups. The physiological substrate of DAOCS is penicillin N (R = δ-(D-α-aminoadipoyl)-, and the physiological product is deacetoxycephalosporin C or DAOC). In the present study, we used penicillin G (R = phenylacetyl-; product: phenylacetyl-7-aminodeacetoxycephalosporanic acid) and ampicillin (R = R-(2-amino)phenylacetyl-; product: cephalexin).